REMARKS

In response to the above-identified Office Action, Applicants amend the application and seek reconsideration thereof. In this response, Applicants amend Claim 1. Applicants do not cancel or add any claims. Accordingly, Claims 1-14 are pending.

I. Claims Rejected Under 35 U.S.C. § 103(a)

A. Claims 1-5, 9, 11, 12, and 14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,031,860 issued to Nitta et al ("Nitta") in view of U.S. Patent No. 6,018,541 issued to Huang ("Huang"). Applicants respectfully traverse the rejection.

To establish a *prima facie* case of obviousness, the relied upon references must teach or suggest every limitation of the claim such that the invention as a whole would have been obvious at the time the invention was made to one skilled in the art. Among other elements, amended Claim 1 recites:

> "an external cavity including a phase control section and an amplifier section, the phase control section having a guiding layer as a passive waveguide that controls a phase variation of feedback laser light, the amplifier section having an active structure that controls the strength of the feedback laser light, the guiding layer of the phase control section is thicker than any guiding layer of each of the active structures...."

Applicants submit that Nitta in view of Huang or other cited references does not teach or suggest at least these elements.

The Examiner cites Nitta for teaching the limitations of Claim 1 but recognizes that Nitta does not teach the DFB section to be complex-coupled. Huang is cited for disclosing a complex-coupled DFB laser waveguide. Assuming for the sake of argument that Nitta and Huang disclose the limitations as asserted by the Examiner, neither reference teaches or suggests "the guiding layer of the phase control section is thicker than any guiding layer of each of the active structures," as recited in amended Claim 1. Nitta and Huang both disclose that the guiding layers in every section have the same or substantially the same thickness (see FIG. 1 of Nitta and FIG. 1 of Huang). In particular, Nitta discloses that the guiding layer of the phase control section is a

common guiding layer to all of the sections and has the same thickness in all of the sections (FIG. 1). Thus, this common guiding layer cannot be thicker than any guiding layer of the active structures in other sections. Thus, Nitta in view of Huang does not teach or suggest each of the elements of amended Claim 1.

Claims 2-5, 9, 11, 12, and 14 depend from Claim 1 and incorporate the limitations thereof. Thus, for at least the reasons mentioned above in regard to Claim 1, Nitta in view of Huang does not teach or suggest these dependent claims. Accordingly, reconsideration and withdrawal of the obviousness rejection of Claims 1-5, 9, 11, 12, and 14 are requested.

B. Claim 6 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nitta in view of U.S. Patent No. 5,175,643 issued to Andrews ("Andrews").

Claim 6 depends from Claim 1 and incorporates the limitations thereof. The Examiner cites Andrews for teaching a DFB device wherein an active region is formed between two optical guide layers. However, Andrews does not teach or suggest "the guiding layer of the phase control section is thicker than any guiding layer of each of the active structures," as recited in amended Claim 1. There is nothing in Andrews that discloses or suggests the guiding layer in one section is thicker than any guiding layer of the active structures in other sections. Thus, for at least the reasons mentioned above in regard to Claim 1, Nitta in view of Andrews does not teach or suggest each element of Claim 6. Accordingly, reconsideration and withdrawal of the obviousness rejection of Claim 6 are requested.

C. Claim 9 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nitta in view of U.S. Patent No. 5,177,758 issued to Oka et al. ("Oka").

Claim 9 depends from Claim 1 and incorporates the limitations thereof. The Examiner cites Oka for teaching the alignment of the central axis. However, Oka does not teach or suggest "the guiding layer of the phase control section is thicker than any guiding layer of each of the active structures," as recited in amended Claim 1. According to FIG. 1 of Oka, layer 181, which is characterized as the guiding layer of the phase control section, is of the same or substantially the same thickness as at least one active layer in other sections. Thus, for at least the reasons

mentioned above in regard to Claim 1, Nitta in view of Oka does not teach or suggest each element of Claim 9. Accordingly, reconsideration and withdrawal of the obviousness rejection of Claim 9 are requested.

D. Claim 13 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Nitta in view of U.S. Patent No. 4,995,048 issued to Kuindersma et al. ("Kuindersma").

Claim 13 depends from Claim 1 and incorporates the limitations thereof. The Examiner cites Kuindersma for teaching a grated laser structure incorporated monolithically with a phase control and an amplifier sections, wherein the amplifier section is located between the grating and the phase control sections. However, Kuindersma does not teach or suggest "the guiding layer of the phase control section is thicker than any guiding layer of each of the active structures," as recited in amended Claim 1. Thus, for at least the reasons mentioned above in regard to Claim 1, Nitta in view of Kuindersma does not teach or suggest each element of Claim 13. Accordingly, reconsideration and withdrawal of the obviousness rejection of Claim 13 are requested.

II. Allowable Subject Matter

Applicants note with appreciation the Examiner's indication that Claims 7, 8, and 10 would be allowable if rewritten in independent form. Applicants respectfully submit that the amendment to Claim 1 has obviated the need to rewrite these claims. As Claim 1 is in condition for allowance, its dependent claims are allowable at least for the reasons mentioned in regard to Claim 1. Accordingly, reconsideration and withdrawal of the objection of Claims 7, 8, and 10 are requested.

CONCLUSION

In view of the foregoing, it is believed that all claims now pending patentability define the subject invention over the prior art of record and are in condition for allowance and such action is earnestly solicited at the earliest possible date.

Respectfully submitted,

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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Erin Flynn — January 13, 2006